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CHAPTER TWO

CHANGING WORKFORCE WILL ALTER THE WORLD OF WORK

A mass of recent studies have compared the expected crop of future workers to the increasing skill demands of the information-age workplace; the prognosis for a match is poor. Given that skilled employees are critical to organizational performance, the federal government is beginning to address the impact these changes will have on its workforce.

When looking at the composition of today's intelligence agencies and envisioning their future workforces, it is difficult to avoid the "demographics as destiny" scenarios put forth in many future-oriented analyses. These projections are important, and much of the discussion here will use them. However, they need not portend severe skill shortages. The intelligence agencies have the chance to act on this information to develop more proactive human capital development policies, and thus mitigate some of the potential impact.

This chapter examines changing workforce demographics and values in the context of the Intelligence Community of today and what the agencies which comprise it will have to do to ensure they can respond to the ever-changing challenges of their national security missions.

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I. WHO WILL WORK IN THE COMING DECADE

While "the future" is an abstract term, it is a fact that five of every six people who will be in the labor force in 1997 are already working or looking for jobs today. In 1988, the median years of education required of new jobs is 12.8, 54.5 percent of families have two wage earners, unemployment is at an eight-year low of 5.5 percent, and the high-school drop-out rate continues to increase in many urban areas.

With an older, slower growing, more ethnically diverse and more female workforce is projected for the turn of the century, change will become the norm in many respects.

A. Basic Demographic Projections

The next decade will see a labor force growing at a slower rate than at any time since the 1930s. Moderate growth projections call for the labor force to expand by nearly 21 million, 18 percent, between 1986 and 2000. This is a slowdown in numbers and rate of growth compared to the previous 14 year period, when the labor force increased by almost 31 million or 35 percent.

The number of young people (age 20 to 29) will decline relatively and absolutely from 41 million in 1980 (18 percent of the total workforce) to 34 million in 2000 (13 percent). Essentially, the lower birthrate of the pre-"baby boom" generation will reassert itself.

The median age of the population will be 36 -- older than at any time in the nation's history -- and the workforce will age with it, from a median of 36 years in 1984 to 39 years in 2000. As Table 1 shows, the proportion of the workforce in each age category will shift as the birth rate decreases, baby boomers age and the labor participation rate of those over 55 declines, largely because of retirement incentives. This latter point may be mitigated somewhat by retirees who choose to reenter the workforce, perhaps in a part-time capacity, after having retired from a previous career.

Table 1
Age Groups as Proportion of the Workforce: 1986 - 2000

Age Group	Proportion of Workforce, 1972	Proportion of Workforce, 1986	Proportion of Workforce, 2000
16 to 24	23	20	16
25 to 54	60	67	73
55 & older	17	13	11

Source: Department of Labor, Occupational Quarterly, Fall 1987

Between 1985 and 2000, 60 percent of new entrants to the workforce will be women. By that time, 61 percent of all women will work, and 47 percent of the total workforce will be female. Their wages will be 74 percent of those of their male counterparts, up from the current 67 percent.

By the year 2000, non-whites will grow from 13.1 percent to 15 percent of the total workforce. In so doing, they will represent 29 percent of the net addition to the workforce. The overall workforce growth rate will be 1.2 percent -- 1 percent for whites, 1.8 for blacks, 3.9 for Asians and 4.1 percent for Hispanics.

The greatest increase will be among working black women, who will outnumber black men. This contrasts with the pattern among whites, where working men outnumber working women almost three to two. When workers of both sexes are considered together, the ethnic group with the greatest projected increase will be Hispanics -- a 74 percent labor force increase, to become a total of 10 percent of the U.S. workforce. Blacks will remain the largest minority group in the workforce, comprising 18 percent of all workers by the year 2000.

Wages for many members of minority groups, already below that of the average wages for white workers, are not expected to rise in proportion to their labor force participation rate. The Bureau of Labor Statistics (BLS) points out that blacks and Hispanics account for a greater proportion of people employed in occupations that are projected to decline or grow more slowly. The declining occupations are those requiring the least amount of education and training, and afford lesser opportunities. With these lesser requirements, come generally lower salaries. BLS highlights the need for higher levels of educational attainment if blacks and Hispanics are to take advantage of job opportunities in rapidly growing occupations.

B. Expected Impact of Change on the Federal Workforce

Anticipating future workforce shifts, the Congress required in the 1988 Appropriations Act that the Office of Personnel Management (OPM) report on the long term workforce needs of the federal government. **Civil Service 2000**, prepared for OPM by the Hudson Institute -- author of **Workforce 2000** -- looks at national trends, what they might portend for the federal government as an employer, and what could be done in anticipation of the future.

Civil Service 2000 finds today's federal workforce is better educated, older, and comprised of a larger proportion of members of minority groups. The report projects little overall workforce

growth, a rise in the female proportion of the workforce, growth in the professional and technical categories, shrinkage in the clerical fields, continued need for a workforce with language skills three times greater than the national rate, and a growing need to reinvest (largely through training) in senior-level technical personnel.

Unless the average tenure of federal workers drops sharply from its current 13.5 years, more than half of the year 2000 federal employees are already on the payroll. Already, the average age of federal workers is 41, compared to 36 for those elsewhere in the economy. Over the next 12 years, if federal employment levels remain stable, the average age will rise. While this increase will be true elsewhere in the U.S. workforce, the bulge of federal workers now between the ages of 36 and 41 will cause a steady rise in age until a "retirement explosion" begins in 2002.

Civil Service 2000 discusses a "slowly emerging crisis of competence" in federal agencies, due to lack of competitive compensation, falling public esteem for civil servants and outdated management practices and needless aggravations. The report projects recruiting and retention problems because of increased private sector competition, the fact that a growing share of federal jobs will fall into the highest skill (most competitive) categories, and the loosening of the "golden handcuffs" through the new, portable Federal Employees Retirement System.

Given these expectations, the report recommends four steps designed to develop better strategies for attracting, hiring, training, motivating and retaining talented people.

Recognize the varying federal agency structures and employee needs by decentralizing authority and responsibility for operations and hiring. Standardized recruitment, classification and pay should give way to decentralized personnel management.

Continue emphasis on hiring, training and promoting women and members of minority groups. If it remains an exemplary employer of these groups, the federal government can expect to attract and keep more than its "fair share" of the best qualified members of this changing workforce.

Substantially increase internal and external education of federal workers. Since it will be difficult to compete for the best qualified workers, federal agencies should systematically invest more in their existing workforces; this is a cost-effective way to build skills.

Upgrade federal pay and make benefit packages more flexible. In return, demand performance. The other three steps will not matter much unless the federal government can offer salaries that are comparable with those offered by other employers. At the same time, a small but important part of building a quality workforce is the flexibility to set high standards and fire those who do not measure up.

Without reforms, some federal agencies may find that the quality of services they can deliver will slowly erode. For the federal government collectively, Civil Service 2000 says the time to address these issues is now, before a slow decline or crisis has irrevocably damaged the reputation for competence, honesty and fairness that the federal civil service still enjoys. Given their national security missions, these issues become even more important for the intelligence agencies to address.

II. AVAILABILITY OF NEW WORKERS TO THE INTELLIGENCE AGENCIES

Most professional jobs in the Intelligence Community are for those with at least one college degree, and the agencies seek to attract recruits at or near the top of their graduating classes or professions. Regardless of whether the intelligence agencies will be able to compete with others who want to hire this talent, it is important to first examine the qualifications of those who will comprise the entry level labor pool through the next decade.

A. Education Preparation

With its warning of a "rising tide of mediocrity," the National Commission on Excellence in Education's report, **A Nation at Risk**, focused the nation's attention on the deteriorating quality of its schools. A discussion of how this occurred and what needs to be done to repair damaged school systems is beyond the scope of this report. The issue itself -- that increasing numbers of U.S. students will not be well prepared for the world of work -- will affect government in many ways.

The Department of Education notes that there has been a substantial increase in the number and proportion of the nation's schoolchildren coming to school from backgrounds that increase the

chance that they will not do well in school. Many of these "at risk" children will have one or more of the following characteristics: poverty, non-English language background, and single-parent families. This increase in the "at risk" population will continue into the 21st century, and many of these children-turned-workers will be members of minority groups, who will comprise a rising proportion of the labor pool.

Thus, with jobs requiring higher levels of math, science, and literacy than ever before, the workplace is becoming increasingly dependent on workers who often receive the poorest education. This will mean that employers will have to provide more basic skills training for many clerical and para-professional staff. The good news is that early childhood programs have been proven to make a large difference in children's success in school, and governmental and private organizations have recognized the need to devote more resources to reaching children whose family environments don't assure adequate learning skills. The not-so-good news is that only 18 percent of children eligible for Head Start programs are served by them, due to inadequate funding.

The median years of education required of new job holders will rise from 12.8 to 13.5 years between 1984 and 2000. Of all jobs created, over half will require education beyond high school, with one third filled with college graduates. Today, only 22 percent of all occupations require college degrees.

While high school graduates will not comprise as large a portion of intelligence agencies' workforces as they would at, for example, the General Services or Social Security Administrations, the agencies will need to prepare to provide additional basic skills training for these workers. In addition, the fact that less skilled workers will comprise an increasing proportion of the overall workforce will mean that the intelligence agencies will face tougher competition for more highly educated workers.

B. Higher Education Trends and Job Requirements

Today, only 22 percent of all occupations require a college degree. By the year 2000, more than half will require some education beyond high school and nearly a third will be filled with college graduates. The median years of education required by the new jobs created between 1984 and 2000 will be 13.5, compared with 12.8 today.

In contrast, of the 2.4 million people who graduate from high school each year, as many as 25 percent cannot read or write at the eighth-grade level. The Educational Testing Service does report that test scores in math, reading, computer literacy and science have gone up since the mid-1970s -- with much of the improvement among minority youth. However, there has been no improvement in

higher-order skills, those that the information age workplace increasingly needs. American high school students score below their foreign counterparts in international math and science tests, and test nearly two to three years behind Japanese students. Thus, many of those reaching young adulthood between now and 2000 will not meet the higher level educational requirements of many intelligence agency positions.

In addition, 20 of the 21 million new jobs projected to be created between 1986 and 2000 will be in the service-producing sector; only 4 percent of total employment growth will be in government, and most of this at the state and local levels. Thus, the "cues" bright students get will lead them to college majors to prepare not only for the private sector, but segments within it that likely will not require coursework compatible with education needed for intelligence work.

There are not many projection figures for degrees to be awarded between now and the year 2000. Education enrollment rates alone are difficult to predict; the large declines projected for the early 1980s did not materialize, mostly because of the increase of older female students and a rise in the college-going rate of 18 to 24 year olds. However, the Department of Education believes that enrollment decline will come, but later and less than had been originally predicted. Overall head count enrollment levels are projected to be about six percent lower in 1992 than in 1985. All of the projected decline is in full-time students. This may indicate more of the future college enrollees will be working adults, many of them retraining for new careers.

The rate of growth in those receiving doctorates from U.S. universities rose five percent in the late 1950s and that rate doubled and then tripled in the 1960s and early 1970s. It peaked in 1973, declined from 1974 to 1976 and has stabilized since 1977.

While this may indicate that the intelligence agencies are competing with other employers for a relatively stable pool of graduates, the proportion of those graduates who are foreign or naturalized U.S.citizens has grown as the overall pool has contracted. (See Chapter Five for more detail on these trends.) Because of security requirements, this means that a considerable portion of additions to the most highly educated segments of the labor force is not available to the IC.

C. Growth in Occupations Requiring Advanced Degrees

At the same time that fewer of those with the most advanced degrees in the critical skill areas are available for intelligence work, the growth rate for jobs in these occupations will also increase. The Hudson Institute projects that growth will be 25 percent across all occupational categories and: 41 percent for engineers/architects/ surveyors; 68 percent for natural/computer/ mathematical scientists. (They offer no figures for foreign language occupations.) Only lawyers and judges will have more occupational growth (71 percent) than scientists.

Recent trends show the most growth in advanced degrees in computer and information sciences (38.7 percent more doctorates awarded in 1986 than in 1985). For the same period, doctorates awarded grew only 6.2 percent in mathematics, 5.6 percent in engineering, and 2.5 percent in foreign languages. Engineering bachelors degrees decreased 1.1 percent in 1986, the first decrease in 10 years. Computer/information sciences and mathematics had the largest increase in bachelors degrees awarded that year -- both up 7.7 percent. Foreign languages increased 1.5 percent.

While a larger proportion of foreign language doctorate recipients are U.S. citizens than are those in the other critical skill disciplines, this data becomes less encouraging when you examine the number of doctorates awarded in 1986 for Russian (28), Arabic (9), Chinese (13), and Slavic languages (8). Equally discouraging is the decline in student demand for instruction in many of the less commonly taught languages. Combined with constrained university budgets, this may cause some of those languages to be dropped from university curriculums.

The crux of the combination of a growth rate for jobs in many professional occupations and the shrinking proportion of the labor pool with the skills to fill these jobs means that the intelligence agencies will have tougher competition for the people with the increasingly higher-demand skills.

III. Changing Values Associated with Work

With the demographic changes in the workforce, managers will likely find their employees with various sets of priorities. Current trends suggest that men and women are seeking to balance career with family and that the pressure for more flexible working arrangements will therefore grow, including demands for company-sponsored day care, part-time work, and childbirth leave for both parents.

As the workforce ages, some analysts believe it may become more productive, on the theory that age brings with it a more experienced, reliable talent pool. Others believe a larger core of older workers will be less willing to adapt to new ideas in the workplace. Most agree that older workers and two-career families will probably be less willing to make geographic moves, a factor which may affect some of the intelligence agencies more than other organizations.

More difficult to quantify is the worth of work to those performing it. Through history, work has been judged to be of value, and is characterized by extrinsic rewards (compensation, benefits, status, etc.) and intrinsic rewards (personal achievement, self-satisfaction, etc.). An Aspen Institute study focuses on

changing values toward work, and associates many current values with "expressivism," defined as including values such as "creativity, autonomy, rejection of authority, placing self-expression ahead of status, pleasure-seeking, the hunger for new experiences, the quest for community, participation in decision-making, the desire for adventure, closeness to nature, cultivation of self, and inner growth."

The post-World War II worker, having lived through the Great Depression and survived the immediate or threatened peril of war, would have a hard time relating to such a list. While there are no universal indices of "worker values," most manager would acknowledge that many workers today focus more on values associated with "self" than they did a decade ago.

This workforce demands such things as expressions of social conscience on the part of their employers ("don't invest in South Africa") and flexibility in working hours and benefits. They want to participate more in managerial decisions, and they place a higher value on the quality of products or service on which they work.

Workers also feel less tied to one employer than they may have in previous decades in the U.S. or still do in, for example, Japan. Thus, worker willingness to make changes coincides with what many believe will be the need to retrain throughout their careers. Some experts maintain workers will perform five or six different jobs over the course of their working lives, requiring varying degrees of retraining for each.

IV. THE WORKPLACE RESPONDS

Recognizing the workforce shifts, public and private sector employers have begun to restructure aspects of their working environments, training programs and benefits packages to adapt to the changing world of work.

A. Private Sector Response

Recent studies show that current modes of corporate organization do not tap the positive values of the baby boom generation, and predicts that firms that stress the need for employee participation, ethical behavior, and elevated product quality are those that will have the most productive workforces. Thus, the rise in total quality circle groups, employee excellence programs, and the enthusiasm for books such as In Search of Excellence.

In a 1987 Conference Board survey of 2,000 businesses and other organizations, education was ranked as respondents' top concern. Concurrently, the National Alliance of Business recently called upon the business community to "view education from the perspective of a company in trouble," urging its members to take a more active role in education in their communities.

As large companies, especially those in major metropolitan areas, have found their search for qualified entry level clerical and para-professional staff more difficult, some have begun special training programs for new hires and others have formed "adopt-a-school" programs through which company employees perform volunteer services for local schools.

In the benefits arena, firms have also begun to meet the more varied workforce expectations by increasingly permitting workers to select from among a variety of benefit options paid for by employer contributions or employee pre-tax contributions -- the so called flexible benefit or "cafeteria" benefit plans. High on worker perceived needs are corporate assistance with child and elder care. As businesses begin to more accurately perceive productivity losses associated with family care-giving, they have become more willing to help employees locate child-care resources or plan for parental care.

In response to changing demographics and other trends, some employers have begun to perceive their workforce as a source of human capital. With job retraining and job replacement costs climbing, high turnover rates are becoming unacceptable -- just as it is unacceptable to management to incur excessive costs due to poorly maintained facilities and equipment. There appears to be a growing willingness in corporate America to invest more in human resource development and training for workers.

B.Federal Response

From the introduction of flex-time in the early 1980s to the 1988 extension of employee leave sharing, the federal government has begun to recognize the need to provide a more adaptable work environment for its two million civilian employees. Greater workplace flexibility is being tested in the demonstration projects authorized under the 1978 Civil Service Reform Act. Using this authority, the Navy, at China Lake and San Diego, has designed pay and performance systems tailored to their employee's work and needs. The Institute for Science and Technology (formerly the National Bureau of Standards) has recently been authorized by Congress to undertake a similar experiment. (See Chapter Four for details.)

The **Civil Service 2000** report stresses that federal agencies should encourage individual agencies to assess child care needs and provide assistance to child care groups at all federal sites, not just those in GSA-managed facilities. The report emphasizes there should not be a government-wide initiative to establish child care centers or a standard solution applied to all agencies. Instead, the report appears to envision the federal role as that of general resource and supportive employer, when the workforce wants the service. Site needs will vary with factors such as proximity to commercial care facilities, working hours and average age of the workforce.

In terms of employee training, the Office of Personnel adopted a Defense Department proposal to amend that portion of the Government Employees' Training Act that prevents the federal government from expending funds to assist employees in getting a college degree. (See Chapter Five for details.) Though not approved in the 100th Congress, the fact that the federal government wants to make such a major change is indicative of the increased training role it recognizes it must play in the near future.

OPM Director Horner has characterized Civil Service 2000 as a useful planning aide, one she would of requested had Congress not mandated its preparation. Clearly, the federal government is well aware of the changing nature of its workforce and the ensuing need for policy changes.

C. Response Within the Intelligence Community

Because of their more flexible personnel authorities, the intelligence agencies have been able to overcome some potential skill shortages by, for example, offering higher salaries than other agencies can. They have also attempted to respond to the changing demographics of their workforces. For example, the NSA Federal Womens Program has played an active role in locating child care resources for the agency's young workforce. The CIA's proposal for a flexible benefits package represents its efforts to let a diverse workforce select the mix of benefits most likely to meet their needs.

Conclusions

While the panel believes that the IC agencies have generally been able to recruit quality candidates for their positions , it is clear that projected changes in the U.S. workforce call for greater innovation if this record is to be sustained. In many respects, the request for this report epitomizes the nature of change within the intelligence agencies' workforces, and congressional recognition of the need to adapt human resource policies.

To a large extent, the Intelligence Community must address some of the same issues that other employers will face -- a future workforce that will be smaller and aging, among other factors. The workforce will also have fewer people with the "blend of skill" requirements needed by the sophisticated IC collection systems, and a large and growing proportion of the new graduates with those skills will be naturalized or non-U.S. citizens. Already in direct competition with hi-tech private sector firms, this competition will grow as the workforce contracts.

Because a growing number workers will be from "at risk" families and because of the expected need for workers to retrain several times throughout their careers, it may be necessary for the IC to provide more training related to direct skill attainment. Employees hired by an intelligence agency, having met rigorous

personnel security requirements and demonstrated a commitment to public service, can be assumed to be worth retaining, and thus retraining, as needed. This is not only a good human resource management policy, but also economical, given the costs of recruitment.

Harder to identify is how the agencies need change to respond to the somewhat different value system of the baby boom generation. In the intelligence agencies, intrinsic rewards are an even larger part of an individual's rewards system, if only because the workforce can't talk about their accomplishments outside a very limited circle. With a shifting set of values among current and future intelligence employees, it may be even more important for IC managers to address these value shifts than it is for other employers. The lead times for hiring staff and the difficulty in replacing some of staff members' expertise make it essential to retain good employees.

Anticipating future workforce composition cannot assure that the intelligence agencies will continue to attract top quality candidates in the increasingly competitive workplace or that they can retain the talented staff they acquire. However, long-range workforce planning -- done in the context of the changing workforce and a flexible human resource management approach -- will enhance the intelligence agencies' ability to control the skill mix of their staffs and how these skills are applied to meet their complex missions.

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